This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (original) A method of assessing the efficacy of an obesity treatment in a subject, the method comprising: a) providing from the subject a test cell population comprising cells capable of expressing one or more nucleic acid sequences selected from the group consisting of OB1-6; b) detecting expression of one or more of the nucleic acid sequences in said test cell population; c) comparing the expression of the nucleic acid sequences in the test cell population to the expression of the nucleic acid sequences in a reference cell population comprising at least one cell whose obesity stage is known; and d) identifying a difference in expression levels of the OB1-6 sequences, if present, in the test cell population and the reference cell population, thereby assessing the efficacy of an obesity treatment in the subject.

2. (original) The method of claim 1, wherein the subject is a mammal.

3. (original) The method of claim 2, wherein the subject is human.

4. (original) The method of claim 1, wherein the method comprises comparing the expression of two or more of the nucleic acid sequences.

5. (original) The method of claim 1, wherein the method comprises comparing the expression of four or more of the nucleic acid sequences.

6. (original) The method of claim 1, wherein the method comprises comparing the expression of six or more of the nucleic acid sequences.

7. (original) The method of claim 1, wherein the expression of the nucleic acid secuences in the test cell population is increased as compared to the reference cell population.

8. (original) The method of claim 1, wherein the test cell population is provided in vitro.

[[8]] 9. (currently amended) The method of claim 1, wherein the test cell population is provided ex vivo from a mammalian subject.

[[9]] 10. (currently amended) The method of claim 1, wherein the test cell is provided in vivo in a mammalian subject.

[[10]] 11. (currently amended) A method of identifying a test therapeutic agent for treating obesity in a subject, the method comprising: a) providing from the subject a test cell population comprising cells capable of expressing one or more nucleic acid sequences selected from the group consisting of OB1-6; b) contacting said test cell population with the test therapeutic agent; c) detecting the expression of one or more of the nucleic acid sequences in said test cell population; d) comparing the expression of the nucleic acid sequences in the test cell population to the expression of the nucleic acid sequences in a reference cell population comprising at least one cell whose obesity stage is known; and e) identifying a difference in expression levels of the OB1-6 sequences, if present, in the test cell population and the reference cell population, thereby identifying a test therapeutic agent for treating obesity in a subject.

[[11]] 12. (currently amended) The method of claim [[10]] 11 wherein the subject is a mammal.

[[12]] 13. (currently amended) The method of claim [[11]] 12 wherein the subject is human.

[[13]] 14. (currently amended) The method of claim [[10]] 11 wherein the test therapeutic agent is a known anti-obesity agent.

[[14]] 15. (currently amended) The method of claim [[13]] 14 wherein the test therapeutic agent is selected from the group consisting of: dexfenfluramine, sibutramine, beta3-adrenergic agonists, and olistat.

[[15]] 16. (currently amended) The method of claim [[10]] 11 wherein the test therapeutic agent is an unknown anti-obesity agent.

17-51. (cancelled)